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Application Serial No. 09/887,804
Attorney Docket No. COS01001

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A computerized method for authenticating an electronic transaction between a user and a computer, the computer being configured to conduct electronic transactions, the method comprising:

receiving a computer-generated transaction identifier from the computer via an electronic data link;

receiving a user-spoken transaction identifier and a user-spoken verification identifier transmitted by the user via a voice connection;

comparing the user-spoken transaction identifier with the computer transaction identifier;

comparing the user-spoken verification identifier with a voice print of the user;
and

transmitting an authentication message to the computer if the user-spoken transaction identifier matches the computer-generated transaction identifier and if the user-spoken verification identifier matches the voice print.

2. (original) The method of claim 1, wherein the computer transaction identifier is generated by the computer in response to the electronic transaction conducted between the user and the computer.

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3. (original) The method of claim 1, further comprising the step of providing the user voice print and user payment information prior to the electronic transaction.

4. (original) The method of claim 3, wherein the user voice print is provided by the user by providing a spoken telephone number to a voice recognition unit.

5. (original) The method of claim 3, wherein the user voice print is provided by the user by providing a spoken user name to a voice recognition unit.

6. (original) The method of claim 3, wherein the user payment information includes a credit card number and an associated credit card expiration date.

7. (currently amended) The method of claim 1, wherein the step of receiving a user-spoken transaction identifier and the step of receiving a user-spoken verification identifier ~~must be~~ are performed within a predetermined time from completing the electronic transaction.

8. (original) The method of claim 7, wherein the predetermined time is about five minutes.

9. (original) The method of claim 1, wherein the electronic data link includes the Internet.

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10. (original) The method of claim 1, wherein the electronic data link includes a private network.
11. (original) The method of claim 1, wherein the computer is a system component of a financial institution.
12. (original) The method of claim 11, wherein the financial institution is a bank.
13. (original) The method of claim 12, wherein the user conducts the electronic transaction using an ATM machine.
14. (original) The method of claim 12, wherein the user conducts the electronic transaction by communicating with a bank teller.
15. (original) The method of claim 1, wherein the user conducts the electronic transaction using a personal computer.
16. (original) The method of claim 1, wherein the user conducts the electronic transaction using a wireless device.
17. (original) The method of claim 1, wherein the user conducts the electronic transaction using a hand-held device.

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18. (original) The method of claim 1, wherein the computer is a system component of an Internet web-site.

19. (original) The method of claim 18, further comprising:
receiving at least one user-spoken command for controlling web-site navigation,
the at least one user-spoken command being transmitted by the user via a telephonic voice connection;
converting the at least one user-spoken command into at least one computer readable command;
transmitting the at least one computer readable command to the computer; and
executing the at least one computer readable command, using the computer,
whereby the user controls web-site navigation of the Internet web-site by voice command via the telephonic voice connection.

20. (original) The method of claim 19, wherein the user is prompted by a voice menu system to respond to voice menu options when transmitting the at least one user-spoken command.

21. (original) The method of claim 1, further comprising:
providing at least one voice menu option to the user;
processing at least one user-spoken response to the at least one voice menu

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option, whereby the at least one user-spoken response is transformed into at least one computer-readable response;

transmitting the at least one computer-readable response to the computer; and
executing the at least one computer response, using the computer, whereby the user controls the computer by voice command.

22. (original) The method of claim 1, wherein the user-spoken transaction identifier and the user-spoken verification identifier are transmitted by a telephonic voice connection.

23. (original) The method of claim 1, wherein the electronic transaction includes an on-line purchase of goods or services.

24. (original) The method of claim 1, wherein the electronic transaction includes a banking transaction.

25. (original) The method of claim 1, wherein the electronic transaction includes downloading music files.

26. (original) The method of claim 1, wherein the electronic transaction includes a point-of-sale transaction.

27. (currently amended) A system for authenticating an electronic transaction

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between a first user-operated device and a computer, the computer being configured to conduct electronic transactions, the system comprising:

a voice browser configured to receive and process user-spoken information when coupled to from a second user-operated device, the voice browser being programmed to compare a user-spoken transaction identifier to a computer generated transaction identifier, and to compare a user-spoken verification identifier to a voice print of the user; and

a session correlator coupled to the voice browser, the session correlator being configured to transmit an authentication message to the computer if the user-spoken transaction identifier matches the computer transaction identifier, and if the user-spoken verification identifier matches the voice print.

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28. (original) The system of claim 27, wherein the voice browser further comprises:

a voice recognition unit coupled to the second user-operated device via a network, the voice recognition unit being configured to recognize audible tones transmitted over the network; and

a database coupled to the voice recognition unit, the database being configured to store the voice print of the user and payment information associated with the voice print.

29. (original) The system of claim 28, wherein the voice recognition unit recognizes both spoken input and DTMF input.

30. (original) The system of claim 28, further comprising a telephony interface unit

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35. (original) The system of claim 27, wherein the voice browser includes at least one software module resident in a computer disposed in a network data center.

36. (original) The system of claim 27, wherein the voice browser includes at least one software module resident in a computer disposed in a customer premise equipment.

37. (original) The system of claim 27, wherein the voice browser includes at least one software module resident in a computer disposed in an intranet.

38. (original) The system of claim 27, wherein the session correlator includes at least one software module resident in an Internet backbone.

39. (original) The system of claim 27, wherein the session correlator includes at least one software module resident in a telecommunications switch.

40. (original) The system of claim 27, wherein the session correlator includes at least one software module resident in a computer disposed in a network data center.

41. (original) The system of claim 27, wherein the session correlator includes at least one software module resident in a computer disposed in a customer premise equipment.

42. (original) The system of claim 27, wherein the session correlator includes at least

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one software module resident in a computer disposed in an intranet.

43. (currently amended) The system of claim 27, wherein [[he]] the second user-operated device includes a microphone.

44. (currently amended) The system of claim 27, wherein [[he]] the second user-operated device includes a telephone set.

45. (original) The system of claim 44, wherein the telephone set is a wireless telephone.

46. (currently amended) The system of claim 45, wherein the wireless telephone is configured to [[us]] use a wireless access protocol.

47. (original) The system of claim 27, wherein the computer transaction identifier is generated by the computer in response to the electronic transaction conducted between the user and the computer.

48. (original) The system of claim 27, wherein the electronic data link includes the Internet.

49. (original) The system of claim 27, wherein the electronic data link includes a

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private network.

50. (original) The system of claim 27, wherein the computer is a system component of a financial institution.

51. (original) The system of claim 50, wherein the financial institution is a bank.

52. (original) The system of claim 51, wherein the first user-operated device includes an ATM machine.

53. (original) The system of claim 51, wherein the user conducts the electronic transaction by communicating with a bank teller.

54. (original) The system of claim 27, wherein the first user-operated device includes a personal computer.

55. (original) The system of claim 27, wherein the first user-operated device includes a wireless device.

56. (original) The system of claim 27, wherein the first user-operated device includes a hand-held device.

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57. (original) The system of claim 27, wherein the computer is a system component of an Internet web-site.

58. (original) The system of claim 27, further comprising:
a user authentication input unit coupled to the first user-operated device and the session correlator, the user authentication unit being configured to accept a user name and a user password from the user;

a database coupled to the user authentication input unit, the database being configured to store an authentic user name and an authentic user password; and

a user authenticator coupled to the user authentication input unit, the database, and the session correlator, the user authenticator being programmed to compare the user name to the authentic user name, and to compare the user password to the authentic user password, whereby the user authenticator provides the session correlator with a transaction denial message if the user name does not match the authentic user name, or the user password does not match the authentic user password.

59. (original) The system of claim 27, wherein the electronic transaction includes an on-line purchase of goods or services.

60. (original) The system of claim 27, wherein the electronic transaction includes a banking transaction.

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61. (original) The system of claim 27, wherein the electronic transaction includes downloading music files.

62. (original) The system of claim 27, wherein the electronic transaction includes a point-of-sale transaction.

63. (original) A computerized voice verification method for authenticating an electronic transaction between a user and a computer, the computer being configured to conduct electronic transactions, the method comprising:

enrolling the user in a voice verification system, whereby the user provides the system with a user voice print;

performing the electronic transaction;

receiving a transaction identifier from the computer via an electronic data link in response to performing the electronic transaction;

receiving a user-spoken transaction identifier and a user-spoken verification identifier transmitted by the user via a voice connection;

comparing the user-spoken transaction identifier with the computer transaction identifier and the user-spoken verification identifier with a voice print of the user; and

transmitting an authentication message to the computer if the user-spoken transaction identifier matches the computer transaction identifier, and if the user-spoken verification identifier matches the voice print.

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64. (original) The method of claim 63, wherein a transaction denied message is transmitted to the computer if the user-spoken transaction identifier does not match the computer transaction identifier, or if the user-spoken verification identifier does not match the voice print.

65. (original) A computerized method for controlling web-site navigation, the method comprising:

providing an authentication system including a voice recognition unit and a session correlator, the voice recognition unit having access to a pre-registered voice print of the user, whereby the authentication system is coupled to a user computer and a web-site during the computerized method;

conducting a transaction between the user computer and the web-site, the web-site transmitting a transaction identifier to the user computer and the authentication system in response to the transaction;

receiving a user-spoken transaction identifier and a user-spoken verification identifier via a telephonic connection, the authentication system being programmed to compare the user-spoken transaction identifier to the transaction identifier and the user-spoken verification identifier to the pre-registered voice print;

transmitting an authentication message to the web-site if the user-spoken transaction identifier matches the transaction identifier and if the user-spoken verification identifier matches the voice print;

receiving at least one user-spoken command for controlling web-site navigation, the authentication system being programmed to convert the at least one user-spoken command

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into at least one computer-readable command; and

transmitting the at least one computer-readable command to the web-site, the at least one computer-readable command being executed by the web-site, whereby the user controls web-site navigation of the web-site by the at least one user-spoken command.

66. (original) The method of claim 65, wherein the at least one user-spoken command includes a plurality of user-spoken commands.

67. (original) The method of claim 65, wherein the plurality of user-spoken commands are transmitted by the user in response to a plurality of voice menu options provided by the authentication unit.

68. (original) The method of claim 65, wherein a web navigation is denied message is transmitted to the computer if the user-spoken transaction identifier does not match the computer transaction identifier, or if the user-spoken verification identifier does not match the voice print.

In accordance with the invention, the present invention includes a method and system for authenticating an electronic transaction between a first user-operated device, such as a personal computer, and a commercial institution computer, such as a web-site, configured to conduct electronic transactions. The system includes a voice browser coupled to a second user-operated device, such as a telephone set. The voice browser is configured to receive and process user-spoken information from the second user operated device, whereby a user-spoken transaction identifier is compared to a transaction identifier, and a user-spoken verification identifier is compared to a voice print of the user. A session correlator is coupled to the voice browser. The session correlator is configured to transmit an authentication message to the computer if the user-spoken transaction identifier matches the computer transaction identifier and if the user-spoken verification identifier matches the voice print.

The system and method of the present invention provides secure authentication and verification of user provided data during the course of an electronic transaction. The system and method of the present invention substantially eliminates the fraudulent usage of debit and credit cards during electronic transactions. The system and method of the present invention is effective in providing security during on-line transactions, ATM transactions, and point-of-sale (POS) transactions. The system and method of the present invention also provides the user with a "hands-free" way of navigating the web using a full-duplex voice communications medium (wire line telephone, wireless telephone, radio, and etc.).

As embodied herein, and depicted in Figure 1, a block diagram of the authentication system in accordance with a first embodiment of the present invention is disclosed. Authentication system 10 includes voice browser 20 and session correlator 30. Voice

browser 20 includes telephony interface 200 connected to telephone network 12 and
computer 202. Computer 202 is coupled to voice print database 204, voice menu option
library 206, speech synthesizer 208, and speech recognition unit 210. Session correlator 30
includes computer 300, server 302, and session correlator software 304. In the example
5 shown in Figure 1, voice browser 20 and session correlator 30 are network resources
disposed anywhere in the network backbone. One of ordinary skill in the pertinent art will
recognize that browser 20 and correlator 30 may be co-located in a network data center. In
that embodiment, computer 202 and computer 300 may well be embodied in one computer.

It will be apparent to those of ordinary skill in the pertinent art that modifications and
variations can be made to telephone interface 200 of the present invention depending on
network 12. For example, if interface 200 is connected to a T-1 line, interface 200 must
accommodate a bandwidth of about 1.5 Mb/s and 24 64 kb/s voice grade channels. In
another embodiment, interface 200 is connected to several T-1 lines. In yet another
embodiment, interface 200 is connected to a T-3 line. In this embodiment, interface 200
must accommodate a bandwidth of approximately 45 mb/s and about 672 64 kb/s voice
grade channels. In another embodiment, the telephone network is a wireless network, in
which case interface 200 must be configured to transmit and receive RF signals, and
programmed to accommodate wireless access protocol (WAP). In another embodiment, the
telephone network is an I/P network and interface 200 must accommodate a voice-over-I/P
20 protocol such the session initiation protocol (SIP).

It will be apparent to those of ordinary skill in the pertinent art that modifications and
variations can be made to server 302 depending on system component choices. One of
ordinary skill in the art will recognize that Internet 14 includes physical devices such as